

AMENDMENTS TO THE SPECIFICATION

In regard to the below amendments to the specification, additions appear as double-underlined text, while deletions appear as double-strikethrough text.

Please replace paragraph [0008] at page 3, line 32, to page 4, line 11, with the following rewritten paragraph:

W -- Interfacial adhesive layers have been used in order to maintain mechanical strength of various multilayered electrophotographic imaging members. Typical interfacial adhesive layer materials include, for example, polyesters, ~~Mor-Ester~~ MOR-ESTER® 49,000 (available from Morton International, Inc.) (also referred to as "~~Morton~~ MORTON® 49,000," "~~Morton~~ MORTON® 49K," and "49K"), ~~Vitel~~ VITEL® PE1100 (available from Bostik, Inc.), polyurethanes, and the like. Satisfactory results may be achieved with adhesive layer thickness between about 0.05 micrometer (500 angstroms) and about 0.3 micrometer (3,000 angstroms). Conventional techniques for applying an adhesive layer coating mixture to the charge blocking layer include spraying, dip coating, roll coating, wire wound rod coating, gravure coating, ~~Bird~~ BIRD® applicator coating, and the like. Drying of the deposited coating may be effected by any suitable conventional technique, such as by oven drying, infra red radiation drying, air drying, and the like. --

Please replace paragraph [0009] at page 4, lines 12-18, with the following rewritten paragraph:

-- ~~Morton~~ MORTON® 49,000 is a linear saturated copolyester reaction product of four diacids and ethylene glycol, in that it consists of alternating monomer units of ethylene glycol and four randomly sequenced diacids. ~~Morton~~ MORTON® 49K has a weight average molecular weight of about 70,000 and a T_g of about 32 degrees C. It is believed that the presence of the diacids containing alkylene groups in ~~Morton~~ MORTON® 49,000 linear saturated copolyester adhesive layers contribute to the delamination of multilayered photoreceptors during transport over small diameter rollers. --

Please replace paragraph [0014] at page 5, lines 14-26, with the following rewritten paragraph:

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-- The present invention relates to an imaging member useful in, for example, imaging and printing systems, including, without limitation, electrophotographic imaging, electrostatographic imaging, digital imaging, and color imaging systems. The imaging member of the present invention has a support, a charge blocking layer, an interfacial adhesive layer including a copolyester-polycarbonate resin, and a charge imaging layer. Further, the charge imaging layer may include a charge generating layer and a charge transport layer. In one embodiment, the interfacial adhesive layer can be disposed between the charge blocking layer and the charge imaging layer. In embodiments in which the charge imaging layer includes a charge generating layer and a charge transport layer, the interfacial adhesive layer can be disposed between the charge blocking layer and the charge generating layer. The terms "imaging member" and "photoconductor" are used interchangeably throughout the present application. In one embodiment, the imaging member has an adhesive strength of between about 5.0 and about 30.0 g/cm, as measured using a reverse peel test. In another embodiment, the adhesive strength between the charge transport layer and the charge generating layer of the imaging member is at least 100 g/cm, as measured using a 90-degree normal peel test. --

Please replace paragraph [0017] at page 6, lines 7-20, with the following rewritten paragraph:

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-- The support (also referred to as a "substrate") may be opaque or substantially transparent and may include numerous suitable materials having the required mechanical properties. The support may further be provided with an electrically conductive surface. Accordingly, the support may include a layer of an electrically non-conductive or conductive material such as an inorganic or organic composition. As electrically non-conducting materials, there may be employed various resins known for this purpose, including polyesters, polycarbonates, polyamides, polyurethanes, and the like. The electrically insulating or conductive substrate may be rigid or flexible and may have any number of different configurations such as, for example, a plate, a cylinder, a sheet, a scroll, a

flexible web, an endless flexible belt, and the like. The substrate may be in the form of an endless flexible belt and includes a commercially available biaxially oriented polyesters known as ~~Mylar™~~ MYLAR®, or as ~~Melinex™~~ MELINEX®, both available from ~~DuPont~~ DUPONT®-TEIJIN® Films. --

Please replace paragraph [0020] at page 7, lines 19-33, with the following rewritten paragraph:

-- The metal layer may include zirconium and/or titanium. The zirconium and/or titanium layer may be formed by any suitable coating technique, such as vacuum depositing technique. Typical vacuum depositing techniques include sputtering, magnetron sputtering, RF sputtering, and the like. Magnetron sputtering of zirconium or titanium onto a metallized substrate can be effected by a conventional type sputtering module under vacuum conditions in an inert atmosphere such as argon, neon, or nitrogen using a high purity zirconium or titanium target. The vacuum conditions are not particularly critical. In general, a continuous zirconium or titanium film can be attained on a suitable substrate, e.g., a polyester web substrate such as ~~Mylar™~~ MYLAR® available from ~~DuPont~~ DUPONT®-TEIJIN® Films with magnetron sputtering. It should be understood that vacuum deposition conditions may all be varied in order to obtain the desired zirconium or titanium thickness. Typical techniques for forming the zirconium and titanium layers are described in U.S. Pat. Nos. 4,780,385 and 4,588,667, the entire disclosures of which are incorporated herein in their entirety. --

Please replace paragraph [0025] at page 10, lines 1-16, with the following rewritten paragraph:


-- Any suitable hole blocking layer capable of forming an electric barrier to holes between the adjacent photoconductive layer and the underlying conductive layer may be utilized. A hole blocking layer may include any suitable material. Typical hole blocking layers utilized for negatively charged photoreceptors can include, for example, Luckamide (a polyamide film forming polymer available from ~~Dai Nippon~~ DAI NIPPON® Ink), hydroxy alkyl methacrylates, nylons, gelatin, hydroxy alkyl cellulose, organopolyposphazines,

organosilanes, organotitanates, organozirconates, silicon oxides, zirconium oxides, and the like. In one embodiment, the conventional hole blocking layer may include a reaction product of a hydrolyzed silane or a mixture of hydrolyzed silanes and the oxidized surface of a metal ground plane layer. The oxidized surface inherently forms on the outer surface of most metal ground plane layers when exposed to air after deposition. This combination enhances electrical stability at low relative humidity. The hydrolyzed silanes can then be used as is well known in the art. For example, see U.S. Pat. No. 5,091,278, the disclosure of which is incorporated herein in its entirety. --


Please replace paragraph [0033] at page 13, lines 1-19, with the following rewritten paragraph:

-- Examples of photogenerating layers include, but are not limited to, inorganic photoconductive particles such as amorphous selenium, trigonal selenium, and selenium alloys selected from the group consisting of selenium-tellurium, selenium-tellurium-arsenic, selenium arsenide and mixtures thereof, and organic photoconductive particles including various phthalocyanine pigments such as the X-form of metal free phthalocyanine described in U.S. Pat. No. 3,357,989 (the disclosure of which is incorporated herein by reference in its entirety), metal phthalocyanines such as vadadyl phthalocyanine, hydroxygallium phthalocyanine, and copper phthalocyanine, dibromoanthanthrone, squarylium, quinacridones available from ~~DuPont~~ DUPONT® under the tradename ~~Monastral~~ MONASTRAL® Red, ~~Monastral~~ MONASTRAL® violet and ~~Monastral~~ MONASTRAL® Red Y, Vat orange 1 and Vat orange 3 trade names for dibromo anthanthrone pigments, benzimidazole perylene (BzP), perylene pigments as disclosed in U.S. Patent No. 5,891,594 (the entire disclosure of which is incorporated herein by reference), substituted 2,4-diamino-triazines disclosed in U.S. Pat. No. 3,442,781 (the entire disclosure of which is incorporated herein by reference), polynuclear aromatic quinones available from Allied Chemical Corporation under the tradename ~~Indofast~~ INDOFAST® Double Scarlet, ~~Indofast~~ INDOFAST® Violet Lake B, ~~Indofast~~ INDOFAST® Brilliant Scarlet and ~~Indofast~~ INDOFAST® Orange, and the like dispersed in a film forming polymeric binder. --

Please replace paragraph [0054] at page 20, line 20, to page 21, line 5, with the following rewritten paragraph:

 -- In another embodiment, in fabricating the imaging member of the present invention, a charge generating material (CGM) and a charge transport material (CTM) may be deposited onto the support surface either in a laminate type configuration where the CGM and CTM are in different layers or in a single layer configuration where the CGM and CTM are in the same layer along with a binder resin. Thus, the imaging member may have one charge imaging layer or two charge imaging layers. Illustrative organic photoconductive charge generating materials include azo pigments such as Sudan Red, Dian Blue, Janus Green B, and the like; quinone pigments such as Algol Yellow, ~~Pyrene~~ PYRENE® Quinone, ~~Indanthrene~~ INDANTHRENE® Brilliant Violet RRP, and the like; quinocyanine pigments; perylene pigments; indigo pigments such as indigo, thioindigo, and the like; bisbenzoimidazole pigments such as ~~Indofast~~ INDOFAST® Orange toner, and the like; phthalocyanine pigments such as copper phthalocyanine, aluminochloro-phthalocyanine, and the like; quinacridone pigments; or azulene compounds. Suitable inorganic photoconductive charge generating materials include, for example, cadmium sulfide, cadmium sulfoselenide, cadmium selenide, crystalline and amorphous selenium, lead oxide and other chalcogenides: Alloys of selenium are encompassed by embodiments of the instant invention and include for instance selenium-arsenic, selenium-tellurium-arsenic, and selenium-tellurium. --

Please replace paragraph [0056] at page 21, lines 18-26, with the following rewritten paragraph:

 -- A flexible imaging member was prepared by providing a titanium coated polyester substrate (~~Melinex~~ MELINEX® 442, available from ~~DuPont-Teijin~~ DUPONT®-TEIJIN® Films) having a thickness of 3 millimeters (76.2 micrometers) and applying thereto, using a 1/2 millimeter gap ~~Bird~~ BIRD® applicator, a solution containing 10 grams 3-aminopropyltriethoxysilane, 10.1 grams distilled water, 3 grams acetic acid, 684.8 grams of 200 proof denatured alcohol and 200 grams heptane. This layer was then allowed to dry for 5 minutes at 135 degrees Celsius in a forced air oven. The resulting charge blocking layer had an average dry thickness of 0.05 micrometer measured with an ellipsometer. --

Please replace paragraph [0057] at page 21, lines 27-34, with the following rewritten paragraph:

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(P) -- An interfacial adhesive layer was then prepared by applying with a 1/2 mil gap ~~Bird~~ BIRD® applicator to the charge blocking layer a wet coating containing 0.5 to 1.1 percent by weight based on the total weight of the solution of polyester adhesive (~~Morton~~ MORTON® 49,000, available from Morton International) in a 70:30 volume ratio mixture of tetrahydrofuran/cyclohexanone. The interfacial adhesive layer was allowed to dry for 5 minutes at 135 degrees Celsius in the forced air oven. The resulting interfacial adhesive layer had a dry thickness of 600 Angstroms (0.06 micrometer). --

Please replace paragraph [0058] at page 22, lines 1-15, with the following rewritten paragraph:

-- The interfacial adhesive layer was thereafter coated with a charge generating layer containing 40 percent by volume benzimidazole perylene (BzP) and 60 percent by volume poly(4,4'-diphenyl-1,1'-cyclohexane carbonate). This charge generating layer was prepared by introducing 0.3 grams of poly(4,4'-diphenyl-1,1'-cyclohexane carbonate) PCZ-200, available from Mitsubishi Gas Chem., and 48 milliliter of tetrahydrofuran into a 4 ounce amber bottle. To this solution was added 1.6 gram of benzimidazole perylene and 300 grams of 1/8 inch diameter stainless steel shot. This mixture was then placed on a ball mill for 96 hours. Ten grams of the resulting dispersion was added to a solution containing 0.547 grams of poly(4,4'-diphenyl-1,1'-cyclohexane carbonate) PCZ-200 and 6.14 grams of tetrahydrofuran. The resulting slurry was thereafter applied to the adhesive interface with a 1/2-millimeter gap ~~Bird~~ BIRD® applicator to form a layer having a wet thickness of 0.5 millimeter. The layer was dried at 135 degrees Celsius for 5 minutes in a forced air oven to form a dry thickness charge generating layer having a thickness of about 1.2 micrometers. --

Please replace paragraph [0059] at page 22, lines 16-29, with the following rewritten paragraph:

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-- This charge generating layer was overcoated with a charge transport layer. The charge transport layer was prepared by introducing into an amber glass bottle in a weight ratio of a hole transporting molecule of 1:1 N,N'-diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine and ~~Makrolon®~~ MAKROLON®, a polycarbonate resin having a molecular weight of from about 50,000 to 150,000 commercially available from Farbenfabriken Bayer A.G. The resulting mixture was dissolved in methylene chloride to form a solution containing 15 percent by weight solids. This solution was applied on the charge generating layer using a 4-millimeter gap ~~Bird~~ BIRD® applicator to form a coating which upon drying had a thickness of 24 microns. During this coating process the humidity was equal to or less than 15 percent. The photoreceptor device containing all of the above layers was annealed at 135 degrees Celsius in a forced air oven for 5 minutes and thereafter cooled to ambient room temperature. After application of the charge transport layer coating, the imaging member spontaneously curled upwardly. --

Please replace paragraph [0060] at page 23, lines 3-11, with the following rewritten paragraph:

-- A second flexible imaging member was prepared by following the procedures and using the same materials as described in Example 1, except that the interfacial adhesive layer contained a copolyester-polycarbonate resin (~~Lexan®~~ LEXAN® ML 5273-111, GE Plastics, Pittsfield, MA) instead of the ~~Morton~~ MORTON® 49,000. The solution for the copolyester-polycarbonate resin is referred to as copoly(bisphenol-A/phthalic acid dichloride ester carbonate) (PCE) (CAS Registration No. 71519-80-7). The copolyester-polycarbonate resin may also be referred to as bisphenol-A/isophthaloyldichloride/terephthaloyldichloride copolyester carbonate. --

Please replace paragraph [0061] at page 23, lines 16-32, with the following rewritten paragraph:

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-- A third flexible imaging member was prepared by following the procedures and using the same materials as described in Example 1, except that the charge generating layer contained 40 percent by volume hydroxygallium phthalocyanine, and 60 percent by volume poly(4,4'-diphenyl-1,1'-cyclohexane carbonate). This charge generating layer was prepared by introducing 0.45 gram poly(4,4'-diphenyl-1,1'-cyclohexane carbonate) PCZ-200, available from Mitsubishi Gas Chem., and 45 grams of tetrahydrofuran into a 4 ounce amber bottle. To this solution was added 2.4 grams of Hydroxygallium phthalocyanine and 300 grams of 1/8 inch (3.2 millimeter) diameter stainless steel shot. This mixture was then placed on a ball mill for 24 hours. Subsequently, 10 grams of the resulting slurry were added to a solution of 0.47 gram PCZ-200 dissolved in 7.42 grams tetrahydrofuran. This slurry was then placed on a shaker for 10 minutes. The resulting slurry was thereafter applied to the interfacial adhesive layer by using a 1/4 millimeter gap Bird BIRD® applicator to form a coating layer having a wet thickness of 0.25 millimeter. This charge generating layer was dried at 135 degrees Celsius for 5 minutes in the forced air oven to form a dry thickness charge generating layer having a thickness of 1.0 micrometers. --

Please replace paragraph [0062] at page 23, line 33, to page 24, line 10, with the following rewritten paragraph:

-- Further, this charge generating layer was overcoated with a charge transport layer. The charge transport layer was prepared by introducing into an amber glass bottle in a weight ratio of a hole transporting molecule of 1:1 N,N'-diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine and Makrolon® MAKROLON®, a polycarbonate resin having a molecular weight of from about 50,000 to 150,000 commercially available from Farbenfabriken Bayer A.G. The resulting mixture was dissolved in methylene chloride to form a solution containing 15 percent by weight solids. This solution was applied on the charge generating layer using a 4-millimeter gap Bird BIRD® applicator to form a coating which upon drying had a thickness of 29 microns. During this coating process the humidity was equal to or less than 15 percent. The photoreceptor device containing all of the above

layers was annealed at 135 degrees Celsius in a forced air oven for 5 minutes and thereafter cooled to ambient room temperature. --

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Please replace paragraph [0063] at page 24, lines 15-22, with the following rewritten paragraph:

-- A fourth flexible imaging member was prepared by following the procedures and using the same materials as described in Example 3, except that the interfacial adhesive layer contained a copolyester-polycarbonate resin (~~Lexan®~~ LEXAN® ML 5273-111, GE Plastics, Pittsfield, MA) instead of ~~Morton~~ MORTON® 49,000. The solution for the copolyester-polycarbonate resin may also be referred to in the art as copoly(bisphenol-A/phthalic acid dichloride ester carbonate) (PCE) (CAS No. 71519-80-7). The copolyester-polycarbonate resin is also referred to as bisphenol-A/isophthaloyldichloride/terephthaloyldichloride copolyester carbonate. --

Please replace paragraph [0065] at page 24, line 30, to page 25, line 16, with the following rewritten paragraph:

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-- The 180-degree peel strength is determined by cutting a minimum of five 0.5 inch x 6 inches imaging member samples from each of Examples 1 through 4. For each sample, the charge transport layer is partially stripped from the test imaging member sample with the aid of a razor blade and then hand peeled to about 3.5 inches from one end to expose part of the underlying charge generating layer. The test imaging member sample is secured with its charge transport layer surface toward a 1 inch x 6 inches x 0.5 inch aluminum backing plate with the aid of two sided adhesive tape, 1.3 centimeters (1/2 inch) width ~~Scotch~~ SCOTCH® Magic Tape #810, available from 3M Company. At this condition, the anti-curl layer/substrate of the stripped segment of the test sample can easily be peeled away 180 degrees from the sample to cause the adhesive layer to separate from the charge generating layer. The end of the resulting assembly opposite to the end from which the charge transport layer is not stripped is inserted into the lower jaw of an ~~Instron~~ INSTRON® Tensile Tester. The free end of the partially peeled anti-curl/substrate strip is inserted into the upper jaw of the ~~Instron~~ INSTRON® Tensile Tester. The jaws are then activated at a 1 inch/min

crosshead speed, a 2 inch chart speed, and a load range of 200 grams, to 180 degrees to peel the sample at least 2 inches. The load monitored with a chart recorder is calculated to give the peel strength by dividing the average load in grams/0.5 inches required for stripping the anti-curl layer with the substrate by 12.7 millimeter/0.5 inches and multiplying by 10 millimeter/centimeter to get a value with units of grams/centimeter. --

Please replace paragraph [0067] (including Table 1) at page 25, lines 21-33, with the following rewritten paragraph:

-- The results from the reverse and normal peel tests are described in Table 1 below. It is apparent that the use of the copolyester-polycarbonate resin (~~Lexan~~ LEXAN® ML5273-111) provides increased peel strength over the 49K polyester resin.

TABLE 1—Reverse and Normal Peel Test Results

Description		Adhesion (g/cm)	
Example	IFL ¹	Reverse	Normal
1	49K	7.8	129.7
2	Lexan <u>LEXAN®</u>	16.7	>200
3	49K	5.4	90.6
4	Lexan <u>LEXAN®</u>	5.2	114.9

¹"IFL" refers to the composition used in the interfacial adhesive layer. --

Please replace paragraph [0069] at page 26, lines 24-26, with the following rewritten paragraph:

-- The results from the electrical testing are included in Table 2 below. No detrimental effects were observed with use of copolyester-polycarbonate resin (~~Lexan~~ LEXAN® ML5273-111) in place of the 49K polyester resin. --